Classification: Air Resources Engineer	**Position No.** 5600-3735-001
CBID: R09	**Office:** Energy Generation Research Office
Date Prepared: October, 2014	**Division:** Energy Research and Development Division
KEY: (E) IS ESSENTIAL, (M) IS MARGINAL	

Under the general supervision of the Energy Resources Specialist III (Managerial) and the Technical Lead of the Environmental Program Area in the Energy Generation Research Office, the incumbent provides air quality engineering support to the Environmental Program Area Team. The incumbent conducts technical analyses and provides direction in the development of natural gas and electricity research projects funded by the Energy Commission (Commission) related to air quality, energy efficiency, and renewable energy. The incumbent contributes with engineering skills and technical assessments to an interdisciplinary team and assists the management with program planning and implementation of projects addressing energy policy.

The goal of the Energy Research and Development Division is to conduct research, development and demonstration to advance science and technologies not adequately provided by the regulated and competitive markets. Energy related air quality research requires a broad expertise on power generation and the energy system, in general. For this reason, the incumbent is knowledgeable of multiple aspects of engineering such as energy/mass balances, thermodynamics, fluid mechanics, combustion, air pollution engineering, statistical analyses, testing of equipment and interpretation of technical codes and standards.

WORKING CONDITIONS:

The work involves sitting, standing, and walking and is performed in an indoor office and meeting room setting and alternatively on-site or in-field at project sites. The candidate must work well with people inside and outside the Commission, including policy-makers and members of the general public. Travel is required to attend site inspections, workshops, hearings and meetings. Additional hours beyond an eight-hour workday or forty-hour workweek may be required. While performing the duties described below, the incumbent will be required to work alone and/or in a team environment, using a personal computer and appropriate Commission software such as word processing, scientific/engineering programs, electronic mail and Internet and participate in and lead meetings with other staff and with other agencies. The incumbent may be also required to use complex software tools to perform engineering analyses.

DUTIES AND RESPONSIBILITIES:

40% Provides engineering analysis and technical support including planning and organizing engineering projects to monitor, test, evaluate and mitigate air quality and public health impacts. The projects for which the incumbent is responsible involve technical engineering issues relating to the energy system including components of the natural gas and electricity systems. In addition, the incumbent has a good technical expertise in the engineering aspects of energy efficiency, HVAC, furnaces, steam boilers, engines, gas turbines, combined heat and power, conversion technologies and processes, and other technologies, components, and systems. The incumbent leads analysis of assessments of key engineering issues affecting the energy sector including evaluations and analysis of energy/environmental trends and drivers, technological responses, identification of engineering problems, possible engineering solutions, and recommendations for research initiatives sponsored by the Commission. The incumbent participates in technical scoring committees and provides his/her engineering expertise in reviewing proposals and provides recommendations for project funding. The incumbent directs research project design/scope; task descriptions; reviews and approves test

plans and protocols; and reviews the content of final products. Subjects typically requiring engineering analysis include, but are not limited to, the following research areas:

- Assists in the management of large–scale field studies on engineering aspects affecting the technical performance or environmental characteristics of different parts of the energy system on topics related to air quality and public health. For example, the incumbent may be involved with studies on engineering emissions testing of the different components of the natural gas system such as natural gas compressors, pneumatic control devices, dehydrators, and transmission and distribution lines to determine the amount of fugitive methane emissions being released and direct the work in studies needed to reduce these emissions. (E)
- Assists with the management of engineering projects involving the evaluation of options to reduce net criteria and greenhouse emissions from the electricity and natural gas systems. (E)

30% Conduct engineering research projects including evaluating performance, quality control/assurance, reviewing interim research products (e.g. results of surveys, test results, design drawings, etc); evaluating technical changes to project budget/scope; and reviewing/approving final products from completed projects. (E)

15% Engage public and private entities addressing energy related air quality and climate change research and related issues important to the Commission. This function requires the incumbent to effectively communicate research to other engineers, researchers and the public at large, requiring both a good degree of technical knowledge and expertise and sensitivity to policy issues. In addition to technical proficiency, this liaison responsibility may include assisting with interactions and detailed negotiations with other projects or programs both internally and externally, including national organizations such as the US Department of Energy (DOE), US Environmental Protection Agency (EPA), American Gas Association, the US Global Change Research Program, Air Resources Board (ARB), Air Districts and Investor Owned Utilities (IOUs). (E)

10% Direct and perform more complex engineering assessments, and provide technical advice and expert testimony relating to air quality and public health impacts from mechanical systems including: heating and air conditioning (HVAC), furnaces, steam boilers, engines, gas turbines and other energy technologies for senior and executive managers, Commissioners and decision-makers and in the preparation of key policy documents such as the Integrated Energy Policy Report. (E)

5% Other duties as required consistent with the classification. (M)

SIGNATURES	
I Certify That I Am Able To Perform, With Or Without The Assistance Of A Reasonable Accommodation, The Essential Job Duties Of This Position	
Incumbent Date Air Resources Engineer	Aleecia Gutierrez Date Energy Resources Specialist III (Managerial)